



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION

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www.miamidade.gov/economy

Firestone Building Products Company, LLC
250 East 96th Street
Indianapolis, IN 46240-3702

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Firestone Modified Bitumen Roof Systems over Steel Decks.

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA revises NOA No.11-0119.10 and consists of pages 1 through 85.

The submitted documentation was reviewed by Jorge L. Acebo.



NOA No.: 13-0522.03
Expiration Date: 03/08/16
Approval Date: 09/04/14
Page 1 of 85

ROOFING SYSTEM APPROVAL

Category: Roofing
Sub-Category: Modified Bitumen
Material: APP/SBS
Deck Type: Steel
Maximum Design Pressure: -172.5 psf

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product	Dimensions	Test Specification	Product Description
APP 80 Glass Base	39.4" x 65'4"	ASTM D6509	Fiberglass reinforced, APP modified bitumen, smooth surfaced base sheet and burn off film.
SBS Glass Torch Base	39.4" x 65'3"	ASTM D6163	Fiberglass reinforced, SBS Modified bitumen ply sheet with sanded bitumen top surface and burn-off film
SBS Glass Torch Base 1.5	39.4" x 65'3"	ASTM D6163	Fiberglass reinforced, SBS Modified bitumen ply sheet with sanded bitumen top surface and burn off film
SBS Base	39.4" x 50'	ASTM D6163	Fiberglass reinforced SBS modified bitumen ply with surface base sheet. Applied in hot asphalt or mechanically attached.
SBS Premium Base	39.4" x 50'	ASTM D6164	Fiberglass reinforced SBS modified bitumen with sanded surfaces.
SBS Poly Base	39.4" x 50'	ASTM D6164	Polyester reinforced SBS modified bitumen membrane with sanded surfaces.
SBS Premium Poly Base	39.4" x 50"	ASTM D6164	Polyester reinforced, SBS modified bitumen membrane with sanded surfaces.
SBS Poly Torch Base	39.4" x 33'6"	ASTM D6164	Polyester reinforced SBS modified bitumen ply with sanded top surface with burn-off film.
Ply IV	39.4" x 164.5'	ASTM D2178	Asphalt impregnated, glass fiber mat reinforced, roofing ply
Ply VI	39.4" x 164.5'	ASTM D2178	Asphalt impregnated, glass fiber mat reinforced, roofing ply
Ply IV (4) M	39.4" x 164.5'	ASTM D2178	Asphalt impregnated, glass fiber mat reinforced, roofing ply
Ply VI (6) M	39.4" x 164.5'	ASTM D2178	Asphalt impregnated, glass fiber mat reinforced, roofing ply
MB Base	36" x 108'	ASTM D4601	Fiberglass reinforced base sheet, asphalt coated on both sides. Applied in hot asphalt or mechanically attached.



Product	Dimensions	Test Specification	Product Description
MB Base M	39.4" x 33'6"	ASTM D4601	Fiberglass reinforced base sheet, asphalt coated on both sides. Applied in hot asphalt or mechanically attached.
SBS Smooth	39.4" x 33'6"	ASTM D6164	Polyester reinforced SBS modified bitumen membrane with sanded surfaces.
APP 160	39." x 32'10"	ASTM D6222	Polyester reinforced APP modified bitumen, smooth surfaced membrane with burn-off film.
APP 160 Cool	39." x 32'10"	ASTM D6222	Polyester reinforced APP modified bitumen, smooth surfaced membrane.
APP 160-P	39." x 32'10"	ASTM D6222	Polyester reinforced APP modified bitumen, smooth surfaced membrane with burn-off film.
APP 170	39." x 32'10"	ASTM D6222	Polyester reinforced APP modified bitumen, smooth surfaced membrane.
APP 170 Cool	39.4" x 33'10"	ASTM D6222	Polyester reinforced APP modified bitumen, smooth surfaced membrane.
APP 180	39.4" x 32'10"	ASTM D6222	Polyester reinforced APP modified bitumen, granule surfaced membrane with burn-off film.
APP 180-P	39.4" x 32'10"	ASTM D6222	Polyester reinforced APP modified bitumen, granule surfaced membrane with burn-off film.
APP 180 UltraWhite	39.4" x 32'10"	ASTM D6222	Polyester reinforced APP modified bitumen, UltraWhite, granule surfaced membrane with burn-off film.
APP 180 FR	39.4" x 32'10"	ASTM D6222	Polyester reinforced fire resistant APP modified bitumen granule surfaced membrane with burn-off film.
APP 180 FR UltraWhite	39.4" x 32'10"	ASTM D6222	Polyester reinforced fire resistant APP modified bitumen, UltraWhite, granule surfaced membrane with burn-off film.
APP 180 Cool	39.4" x 32'10"	ASTM D6222	Polyester reinforced APP modified bitumen, granule surfaced membrane.
APP 180 FR Cool	39.4" x 32'10"	ASTM D6222	Polyester reinforced, fire retardant APP modified bitumen, granule surfaced membrane with burn-off film.
APP Premium FR	39.4" x 32'10"	ASTM D6223	Combination fiberglass scrim and polyester mat reinforced, fire retardant APP modified bitumen, granule surfaced membrane.
SBS Glass	39.4" x 33'6"	ASTM D6163	Fiberglass reinforced, SBS modified bitumen, granule surfaced membrane with sanded bottom surface.

Product	Dimensions	Test Specification	Product Description
SBS Glass FR	39.4" x 33'6"	ASTM D6163	Fiberglass reinforced, fire resistant, SBS modified bitumen membrane, granule surfaced with sanded bottom surface.
SBS Glass FR UltraWhite	39.4" x 33'6"	ASTM D6163	Fiberglass reinforced, fire resistant, SBS modified bitumen membrane, UltraWhite granule surfaced with sanded bottom surface.
SBS Glass FR Torch	39.4" x 33'6"	ASTM D6163	Fiberglass reinforced, fire resistant, SBS modified bitumen ply with sanded top surface and burn-off film.
SBS Glass FR Torch UltraWhite	39.4" x 33'6"	ASTM D6163	Polyester reinforced, fire resistant, SBS modified bitumen membrane, UltraWhite granule surfaced with burn-off film.
SBS Torch	39.4" x 33'6"	ASTM D6164	Polyester reinforced, SBS modified bitumen membrane, granule surfaced with burn-off film.
SBS Torch UltraWhite	39.4" x 33'6"	ASTM D6164	Polyester reinforced, SBS modified bitumen membrane, UltraWhite granule surfaced with burn-off film.
SBS FR Torch	39.4" x 33'6"	ASTM D6164	Polyester reinforced, fire resistant, SBS modified bitumen, granule surfaced with burn-off film.
SBS FR Torch UltraWhite	39.4" x 33'6"	ASTM D6164	Polyester reinforced, fire resistant, SBS modified bitumen membrane, UltraWhite granule surfaced with burn-off film.
SBS Cap	39.4" x 33'6"	ASTM D6164	Polyester reinforced, SBS modified bitumen membrane, granule surfaced with sanded bottom surface.
SBS Cap UltraWhite	39.4" x 33'6"	ASTM D6164	Polyester reinforced, fire resistant, SBS modified bitumen membrane, UltraWhite granule surfaced with sanded bottom surface.
SBS FR Cap	39.4" x 33'6"	ASTM D6164	Polyester reinforced, fire resistant, SBS modified bitumen membrane, UltraWhite granule surfaced with sanded bottom surface.
SBS FR Cap UltraWhite	39.4" x 33'6"	ASTM D6164	Polyester reinforced, fire resistant, SBS modified bitumen membrane, UltraWhite granule surfaced with sanded bottom surface.
SBS Premium	39.4" x 33'6"	ASTM D6164	Polyester reinforced, SBS modified bitumen membrane, granule surfaced with sanded bottom surface.
SBS Premium FR	39.4" x 33'6"	ASTM D6164	Polyester reinforced, fire resistant, SBS modified bitumen membrane, granule surfaced with sanded bottom surface.

Product	Dimensions	Test Specification	Product Description
SBS Premium FR UltraWhite	39.4" x 33'6"	ASTM D6164	Polyester reinforced, fire resistant, SBS modified bitumen membrane, UltraWhite granule surfaced with sanded bottom surface.
SBS Premium Torch	39.4" x 33'5"	ASTM D6164	Polyester reinforced, fire retardant, SBS modified bitumen membrane with burn-off film.
SBS Premium Torch UltraWhite	39.4" x 33'6"	ASTM D6164	Polyester reinforced, SBS modified bitumen membrane, UltraWhite granule surfaced, with burn-off film.
SBS Premium FR Torch	39.4" x 33'6"	ASTM D6164	Polyester reinforced, fire resistant, SBS modified bitumen membrane, granule surfaced with burn-off film.
SBS Premium FR Torch UltraWhite	39.4" x 33'6"	ASTM D6164	Polyester reinforced, fire resistant, SBS modified bitumen membrane, UltraWhite granule surfaced with burn-off film.
I.S.O. Twin Pack Insulation Adhesive	1500 ml	Proprietary	A dual component polyurethane adhesive.
I.S.O. FIX II	30 lb.	Proprietary	A single component polyurethane insulation adhesive.
I.S.O. Stick	5 gal. & 1500 ml	Proprietary	A dual component polyurethane adhesive.
Firestone Multi-Purpose MB Cold Adhesive	5 gal.	Proprietary	An asphalt matrix blended with fibers based adhesive
LiquiGard Membrane Adhesive	6 gal.	Proprietary	A two-part urethane adhesive.

APPROVED INSULATIONS:

TABLE 2		
Product Name	Product Description	Manufacturer (With Current NOA)
ISO 95+ GL (and Tapered),	Polyisocyanurate insulation board with glass reinforced organic facer	Firestone Building Products Company, LLC
RESISTA (and Tapered)	Polyisocyanurate Insulation board with coated fiberglass facer	Firestone Building Products Company, LLC
ISOGARD HD	High density Polyisocyanurate roof board with a coated fiberglass facer	Firestone Building Products Company, LLC
ISOGARD HD Composite	Polyisocyanurate foam core laminated to ISOGARD HD board	Firestone Building Products
FiberTop E	Regular wood fiber insulation	Firestone Building Products Company, LLC
DensDeck, DensDeck Prime	Silicon treated gypsum	Georgia Pacific Gypsum LLC
SECUROCK Gypsum-Fiber Roof Board	Gypsum roof board with fiber reinforcement	United States Gypsum Corporation
High Density Wood Fiberboard	High Density Wood Fiberboard insulation board.	Generic
Perlite Insulation Board	Perlite Insulation	Generic

APPROVED FASTENERS:

TABLE 3				
Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Firestone All-Purpose	Insulation and membrane fastener	Various	Firestone Building Products Company, LLC
2.	Firestone Heavy-Duty	Insulation and membrane fastener	Various	Firestone Building Products Company, LLC
3.	MB 2" Barbed Metal Seam Plate	Metal plates used for membrane securement.	2" dia	Firestone Building Products Company, LLC
4.	Trufast Fasteners	Insulation and membrane fastener	Various	Firestone Building Products Company, LLC
5.	Insulation Fastening Plate	Insulation plate for use with Firestone Fasteners	3" round	Firestone Building Products Company, LLC
6.	Firestone Coiled Metal Batten Strip	Galvalume batten strip	220' per coil	Firestone Building Products Company, LLC
7.	Firestone Heavy-Duty Plus	High thread fastener for use in wood, steel or concrete decks	Various	Firestone Building Products Company, LLC
8.	Trufast #14 HD Fastener	Insulation and membrane fastener	Various	Altenloh, Brinck & Co. U.S., Inc.
9.	Trufast 3" Metal Insulation Plate	Galvalume AZ50 steel plate	3.23" round	Altenloh, Brinck & Co. U.S., Inc.



EVIDENCE SUBMITTED:

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Description</u>	<u>Date</u>
Factory Mutual Research Corp.	1D5A8.AM	FM 4470	09/09/98
	3003597	FM 4470	07/14/99
	3004786	FM 4470	05/16/00
	3005030	FM 4470	08/08/00
	3009613	FM 4470	08/26/02
	3017121	FM 4470	06/12/03
	3022502	FM 4470	01/29/07
	3030227	FM 4470	06/18/07
	3007328	FM 4470	07/12/02
	3030107	FM 4470	05/18/07
	3026520	FM 4470	12/14/06
	3032850	FM 4470	06/05/08
	3035017	FM 4470	08/04/10
	3040795	FM 4470	03/24/11
	3033921	FM 4470	08/04/10
	3033218	FM 4470	08/04/10
	3041534	FM 4470	03/09/11
	3042392	FM 4470	06/08/11
	3035560	FM 4470	01/11/10
	3038191	FM 4470	08/04/11
	3040306	FM 4470	09/07/11
	3046333	FM 4470	08/10/12
	3047398	FM 4470	08/15/13
Trinity ERD	4810.01.96-1	TASA 114(C) & (D)	01/31/96
	F8800.01.08-R1	TAS 114	04/21/08
	F10370.05.08	ASTM C1289	05/08/08
	F10500.10.08-1R2	ASTM D6163	03/22/13
	F31960.05.10-1	ASTM D4977	05/19/10
	F31960.05.10-2	ASTM D4977	05/19/10
	F31960.08.10-1	ASTM D4977	08/25/10
	F31960.08.10-2-R1	ASTM D4977	03/25/13
	F35400.05.11	ASTM Physical Properties	05/31/11
	F41070.08.12	ASTM D6222	08/24/12
	U41790.05.12-2-R2	ASTM D6222	02/11/13
	U41790.05.12-1-R1	ASTM D6222	01/21/13
Underwriters Laboratories	R9516	UL 790	01/25/13
PRI Construction Materials Technologies, LLC	FBP-018-02-01	ASTM D6163	09/07/04
	FBP-011-02-01	ASTM D6164	09/02/04
	FBP-008-02-01	ASTM D6222	09/10/04
	FBP-009-02-01	ASTM D6222	08/31/04
	FBP-010-02-01	ASTM D6164	09/04/04
	FBP-014-02-01	ASTM D6164	09/02/04
	FBP-015-02-01	ASTM D6509	09/02/04
	FBP-016-02-01	ASTM D6509	09/02/04
	FBP-017-02-01	ASTM D6163	09/13/04
	FBP-019-02-01	ASTM D4601	09/14/04



<u>Test Agency</u>	<u>Test Identifier</u>	<u>Description</u>	<u>Date</u>
PRI Construction Materials Technologies, LLC	FBP-023-02-01	ASTM D6223	09/01/04
	FBP-007-02-01	ASTM D6222	09/14/04
	FBP-020-02-01	ASTM D2178	09/14/04
	FBP-038-02-03	ASTM D6164	01/12/11
	FBP-038-02-04	ASTM D6164	01/12/11
	FBP-038-02-02	ASTM D6164	01/12/11
	FBP-038-02-01	ASTM D6164	12/27/10
	FBP-043-02-03	ASTM D6164	07/26/11
	FBP-043-02-02	ASTM D6164	08/02/11
	FBP-043-02-04	ASTM D6164	07/26/11
	FBP-043-02-01	ASTM D6164	08/02/11
	FBP-042-02-01	ASTM D6164	07/26/11
	FBP-042-02-02	ASTM D6164	07/27/11
	FBP-058-02-01	ASTM D4601	12/12/08
	FBP-057-02-01	ASTM D2178	12/12/08
	FBP-056-02-01	ASTM D2178	12/12/08
	FBP-087-02-01	ASTM D4798	03/22/13
	FBP-088-02-01	ASTM D4798	03/22/13
	FBP-106-02-01	TAS 114(J)	04/19/13
	FBP-109-02-01	TAS 114(J)	04/19/13
	FBP-113-02-01	TAS 114(J)	04/17/13
	FBP-118-02-01 Rev.1	TAS 114(J)	01/02/14
	FBP-123-02-01	TAS 114(J)	07/26/13
	FBP-124-02-01	TAS 114(J)	08/02/13
	FBP-126-02-01	ASTM D6163	12/03/13
	FBP-127-02-01	ASTM D6164	11/20/13
	FBP-133-02-01 Rev.3	TAS 114(J)	02/10/14
	FBP-133-02-02 Rev.1	TAS 114(J)	01/02/14
	FBP-141-02-01	TAS 114(J)	12/18/13
	FBP-142-02-01 Rev.1	TAS 114(J)	01/02/14
	FBP-142-02-02 Rev.1	TAS 114(J)	10/01/13
	FBP-059-02-01.4	ASTM D903/D1876/D5147 TAS 117(B)/114(D) &(H)	06/03/14

APPROVED ASSEMBLIES

Membrane Type: APP
Deck Type 2I: Steel, Insulated
Deck Description: 18-22 ga. steel
System Type B(1): Base layer of insulation mechanically attached, top layer adhered with approved asphalt.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA Minimum 1.3" thick	1 or 2 with 5	1:2.4 ft ²

Note: Base layer shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft ²
Approved Perlite Minimum ¾" thick	N/A	N/A
Approved High Density Wood Fiberboard Minimum ½" thick	N/A	N/A

Note: Optional top layer of insulation shall be adhered with approved hot asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet: One ply of MB Base adhered to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Ply Sheet: (Optional) One or more plies of MB Base, Ply IV , Ply IV (4) M, Ply VI or Ply VI (6) M ply sheet or other listed base sheet applied in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.; or one ply Firestone APP 160-P torch applied.

Membrane: One ply of APP 180, APP 180-P, APP 180 UltraWhite, APP 180 FR, APP 180 FR UltraWhite, applied by torch parallel to the base ply, with the overlaps staggered 12".

Surfacing: (Optional) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following:

1. Gravel or slag at 400 lb. and 300 lb., respectively, set in a flood coat of type III or IV asphalt at 60 lb./sq.
2. Karnak No. 97, No. 97 AF or No. 169, Henry 520 aluminum, MB aluminum coating or APOC #212 at an application rate of 1½ gal./sq.

Maximum Design Pressure: -45 psf. (See General Limitation #9)



Membrane Type: SBS
Deck Type 2I: Steel, Insulated
Deck Description: 18-22 ga. steel
System Type B(2): Base layer of insulation mechanically fastened, top layer adhered with approved adhesive.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL, RESISTA		
Minimum 1.5" thick	1 with 5	1:2 ft²
Minimum 2" thick	1 or 2 with 5	1:2 ft²

Note: Base layer shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board		
Minimum ¼" thick	N/A	N/A

Note: Top layer of insulation shall be adhered with I.S.O. Twin Pack Insulation Adhesive applied in ½ - ¾" wide ribbons spaced 12 in. o.c. or I.S.O. FIX II or I.S.O. Stick applied in ¾" – 1" wide ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, SBS Premium Poly Base, fully adhered to the insulation with hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
 Or
 One or more plies of SBS Glass Torch Base, SBS Poly Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Membrane: One ply of Firestone SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Premium, SBS Premium FR or SBS Premium FR UltraWhite or SBS Smooth fully adhered with Firestone Multi-Purpose MB Cold Adhesive squeegee applied at 1.5 – 2.0 gal./sq. The minimum 3 in. wide side laps are sealed with Firestone Multi-Purpose MB Cold Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square.

OR

One ply of Firestone APP 170 Cool, APP 180 Cool or APP 180 FR Cool fully adhered with Firestone Multi-Purpose MB Cold Adhesive squeegee applied at 1.5 – 2.0 gal./sq. The minimum 4 in. wide side laps are sealed with Firestone Multi-Purpose MB Cold Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square.

OR

One ply of SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite torch adhered to the base sheet.

OR

One ply of Firestone SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square.

OR

One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered to the base sheet with hot asphalt adhesive applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: (Optional) Install one of the following to obtain required fire classification.

1. Roof gravel at 400 lbs./sq. in a flood coat of approved asphalt
2. Roof gravel in Firestone Multi-Purpose MB Cold Adhesive at 2.5 gal./sq. (SBS roof covers)

**Maximum Design
Pressure:**

-45 psf. (See General Limitation #9)

Membrane Type: SBS
Deck Type 2I: Steel, Insulated
Deck Description: 18-22 ga. steel
System Type B(3): Base layer of insulation mechanically fastened, top layer adhered with approved adhesive.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL, RESISTA Minimum 1.5" thick	1 or 2 with 5	1:2.7 ft²
ISO 95+ GL, RESISTA Minimum 2" thick	1 or 2 with 5	1:4 ft²

Note: Base layer shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum 1/4" thick	N/A	N/A
ISOGARD HD Minimum 1/2" thick	N/A	N/A

Note: Top layer of insulation shall be adhered with LiquiGard Membrane Adhesive applied in continuous 3/4" – 1" wide ribbons spaced at a maximum 12 in. o.c. or applied with I.S.O. Twin Pack Insulation Adhesive applied in 1/2 - 3/4" wide ribbons spaced 12 in. o.c. or I.S.O. FIX II or I.S.O. Stick applied in 3/4" – 1" wide ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of SBS Base, MB Base, Ply IV, Ply VI, SBS Poly Base, SBS Premium Base, SBS Premium Poly Base, or SBS Smooth fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5 – 2.0 gal./sq. with minimum 3 in. wide side laps.
OR
(Not for use with ISOGARD HD) SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, SBS Smooth, Ply IV, Ply VI, MB Base in hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
OR
(Not for use with ISOGARD HD) One or more plies of SBS Glass Torch Base, SBS Glass Torch Base 1.5, SBS Poly Torch adhered with minimum 3 in. wide side laps.

- Membrane:** SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite is fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square.
- OR
- One ply of SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite cap sheet torch adhered to the ply sheet with the 3” side laps heat fused with a torch.
- OR
- One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered to the base sheet with hot asphalt adhesive applied within the EVT range and at a rate of 20-40 lbs./sq
- OR
- One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR or SBS Premium FR UltraWhite cap sheet fully adhered to the base sheet with Firestone Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal./sq
- Surfacing:** (Optional) Install one of the following to obtain required fire classification.
1. Roof Gravel at 400 lbs./sq. in a flood coat of approved asphalt.
- Maximum Design Pressure:** -45 psf. (See General Limitation #9)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type B(4): Base layer of insulation mechanically fastened, top layer of insulation adhered with approved adhesive.

Thermal Barrier: Min. ½” thick DensDeck or Dens Deck Prime mechanically fastened to deck with Firestone All-Purpose or Heavy Duty Fasteners and Insulation Fastening Plates at a rate of 1 per 2 ft².

All General and System Limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL, RESISTA Minimum 1.5” thick	N/A	N/A
Middle Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL, RESISTA Minimum 1.5” thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum ¼” thick	N/A	N/A
FiberTop E, Approved High Density Wood Fiberboard Minimum ½” thick	N/A	N/A

Note: Insulation shall be adhered to the deck with I.S.O. Twin Pack Insulation Adhesive applied in ½ - ¾” wide ribbons spaced 12 in. o.c. or with I.S.O. Stick or I.S.O. FIX II applied in ¾-1” ribbons spaced 12” o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment

System 1:

Base Sheet: Two plies of Firestone Ply IV , Ply VI, Ply IV (4) M, or Ply VI (6) M felt or One ply of Firestone SBS Base, SBS Premium Base or SBS Smooth fully adhered in full mopping of approved asphalt within the EVT range and at a rate of 20-25 lbs./sq.

Ply Sheet: (Optional with FiberTop E & HDWF) One ply of Firestone Ply IV , Ply IV (4) M, Ply VI or Ply VI (6) M ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-25 lbs./sq.

Membrane: One ply of Firestone SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-25 lbs./sq.



OR

(Not with MB Base M) One ply of Firestone SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square.

OR

One ply of Firestone SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite torch adhered

OR

(Only when adhering to Type IV or Type VI felts) One ply of Firestone SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR or SBS Premium FR UltraWhite cap sheet fully adhered to the base sheet with Firestone Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal./sq.

System 2:

Base Sheet:

(with Dens Deck Prime or SECUROCK coverboard only):

One ply of Firestone SBS Poly Torch Base or SBS Glass Torch Base sheet, torch adhered.

Membrane:

One ply of Firestone SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite cap sheet torch adhered to the base sheet with the 3” sidelaps heat fused with a torch.

Surfacing:

(Optional) Install one of the following to obtain required fire classification.

1. Roof Gravel in Firestone Multi-Purpose MB Cold Adhesive.
2. Roof Gravel in a flood coat of approved asphalt

Maximum Design

Pressure:

-45 psf. (See General Limitation #9)

Membrane Type: APP

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., 0.0295 in. thick, A653 Grade 40 steel deck attached to structural supports spaced a maximum 6 ft. o.c. with ITW Buildex Traxx/5 fasteners placed 6" o.c. ITW Buildex Traxx/1 fasteners were installed 24" o.c. at the panel side laps.

System Type B(5): Base layer of insulation mechanically attached, top layer adhered with approved asphalt.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL or RESISTA Minimum 1.5" thick	1 or 2 with 5	1:2 ft²

Note: Base layer shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
FiberTop E Minimum ½" thick	N/A	N/A

Note: Top layer of insulation shall be adhered with approved hot asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Ply Sheet: One or more plies in any combination of the following: MB Base, Ply IV, Ply IV (4) M, Ply VI or Ply VI (6) M ply sheet bonded to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply Firestone APP 160-P torch applied.

Membrane: One ply of APP 180, APP 180-P, APP 180 UltraWhite, APP 180 FR, APP 180 FR UltraWhite, applied by torch parallel to the base ply, with the overlaps staggered 12".

Surfacing: (Optional) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following:

1. Gravel or slag at 400 lb. and 300 lb., respectively, set in a flood coat of type III or IV asphalt at 60 lb./sq.
2. Karnak No. 97, No. 97 AF or No. 169 at an application rate of 1½ gal./sq.

Maximum Design Pressure: -60 psf. (See General Limitation #7)



Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., 0.0295 in. thick, A653 Grade 40 steel deck attached to structural supports spaced a maximum 6 ft. o.c. with ITW Buildex Traxx/5 fasteners placed 6" o.c. ITW Buildex Traxx/1 fasteners were installed 24" o.c. at the panel side laps.

System Type B(6): Base layer of insulation mechanically fastened, top layer adhered with approved asphalt.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA Minimum 1.5" thick	1 or 2 with 5	1:2 ft ²

Note: Base layer shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
FiberTop E Minimum ½" thick	N/A	N/A

Note: Top layer of insulation shall be adhered with approved hot asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet: One or more plies in any combination of the following: MB Base, SBS Base, Ply IV, Ply IV (4) M, Ply VI or Ply VI (6) M ply sheet bonded to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Smooth, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
OR
One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square.

**Membrane:
(Continued)**

OR

One ply of SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite, torch adhered.

OR

One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR or SBS Premium FR UltraWhite cap sheet fully adhered to the base sheet with Firestone Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal./sq.

Surfacing:

(Optional) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following:

1. Gravel or slag at 400 lb. and 300 lb., respectively, set in a flood coat of type III or IV asphalt at 60 lb./sq.
2. Karnak No. 97, No. 97 AF at an application rate of 1½ gal./sq.

**Maximum Design
Pressure:**

-60 psf. (See General Limitation #7)

Membrane Type: APP

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., 0.0295 in. thick, A653 Grade 40 steel deck attached to structural supports spaced a maximum 6 ft. o.c. with ITW Buildex Traxx/5 fasteners placed 6" o.c. ITW Buildex Traxx/1 fasteners were installed 24" o.c. at the panel side laps.

System Type B(7): Base layer of insulation mechanically attached, top layer adhered with approved asphalt.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA Minimum 1.5" thick	1 or 2 with 5	1:1.6 ft ²

Note: Base layer shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
FiberTop E Minimum ½" thick	N/A	N/A

Note: Top layer of insulation shall be adhered with approved hot asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Ply Sheet: Two or more plies in any combination of the following: MB Base, Ply IV, Ply IV (4) M, Ply VI or Ply VI (6) M ply sheet bonded to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or APP 160-P torch applied.

Membrane: One ply of APP 180, APP 180-P, APP 180 UltraWhite, APP 180 FR, APP 180 FR UltraWhite, applied by torch parallel to the base ply, with the overlaps staggered 12".

Surfacing: (Optional) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following:

1. Gravel or slag at 400 lb. and 300 lb., respectively, set in a flood coat of type III or IV asphalt at 60 lb./sq.
2. Karnak No. 97, No. 97 AF or No. 169 at an application rate of 1½ gal./sq.

Maximum Design Pressure: -75 psf. (See General Limitation #7)



Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., 0.0295 in. thick, A653 Grade 40 steel deck attached to structural supports spaced a maximum 6 ft. o.c. with ITW Buildex Traxx/5 fasteners placed 6" o.c. ITW Buildex Traxx/1 fasteners were installed 24" o.c. at the panel side laps.

System Type B(8): Base layer of insulation mechanically fastened, top layer adhered with approved asphalt.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA Minimum 1.5" thick	1 or 2 with 5	1:1.6 ft ²

Note: Base layer shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
FiberTop E Minimum ½" thick	N/A	N/A

Note: Top layer of insulation shall be adhered with approved hot asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet: Two or more plies in any combination of the following: MB Base, SBS Base, Ply IV, Ply IV (4) M, Ply VI or Ply VI (6) M ply sheet bonded to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Smooth, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
OR
One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square

**Membrane:
(Continued)**

OR

One ply of SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite, torch adhered

OR

One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR or SBS Premium FR UltraWhite cap sheet fully adhered to the base sheet with Firestone Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal./sq.

Surfacing:

(Optional) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following:

1. Gravel or slag at 400 lb. and 300 lb., respectively, set in a flood coat of type III or IV asphalt at 60 lb./sq.
2. Karnak No. 97, No. 97 AF at an application rate of 1½ gal./sq.

**Maximum Design
Pressure:**

-75 psf. (See General Limitation #7)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., 0.0295 in. thick, ASTM A1008 Grade 33, Type B steel deck attached to structural supports spaced a maximum 6 ft. o.c. with ITW Buildex Traxx/5 fasteners placed 6" o.c. ITW Buildex Traxx/1 fasteners were installed 24" o.c. at the panel side laps.

System Type B(9): Base layer of insulation mechanically fastened, top layer of insulation adhered with approved adhesive.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA Minimum 1.5" thick	1 or 2 with 5	1:1.6 ft ²

Note: Base layer shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA Minimum 1.5" thick	N/A	N/A

Note: Top layer of insulation shall be adhered with I.S.O. Twin Pack Insulation Adhesive applied in ½ - ¾" wide ribbons spaced 12 in. o.c. or I.S.O. FIX II or I.S.O. Stick applied in ¾" – 1" wide ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of SBS Base, MB Base, Ply IV, Ply VI, SBS Poly Base, SBS Premium Base, SBS Premium Poly Base, or SBS Smooth fully adhered to the insulation with LiquiGard Membrane Adhesive applied at a rate of 1.5 – 2.0 gal./sq. with minimum 3 in. wide side laps.

Membrane: One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square.

OR

One ply of SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite cap sheet torch adhered to the ply sheet with the 3" side laps heat fused with a torch.

**Membrane:
(Continued)**

OR

One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered to the base sheet with hot asphalt adhesive applied within the EVT range and at a rate of 20-40 lbs./sq.

OR

One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR or SBS Premium FR UltraWhite cap sheet fully adhered to the base sheet with Firestone Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal./sq.

Surfacing:

(Optional) Install one of the following to obtain required fire classification.

1. Roof Gravel at 400 lbs./sq. in a flood coat of approved asphalt.

**Maximum Design
Pressure:**

-75 psf. (See General Limitation #7)

Membrane Type:	SBS
Deck Type 2I:	Steel, Insulated
Deck Description:	18-22 ga., Type B (min. 33 ksi) steel deck is secured structural supports at a maximum spacing of 6 ft. o.c. Steel deck is attached to supports with #12 – 24 x 1-¼” HWH screws spaced a maximum 6” o.c. one fastener at each bearing attachment point. Side Laps are fastened at 24” o.c. with ¼” x ⅞” HWH screws.
System Type B(10):	Base layer of insulation mechanically attached, top layer adhered with approved adhesive. Membrane fully adhered.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL, RESISTA		
Minimum 1½” thick	1 with 5	1:1.6 ft²

Note: Base layer shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board		
Minimum ½” thick	N/A	N/A

Note: Top layer of insulation shall be adhered with I.S.O. Twin Pack Insulation Adhesive applied in ½” to ¾” wide ribbons spaced 6” o.c. (not with SECUROCK) or with I.S.O. Fix II or I.S.O. Stick applied in ¾” to 1” wide ribbons spaced 6” o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet: One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, Ply VI fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Ply Sheet: (Optional) One or more plies of] SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

(Optional) One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.



Membrane: One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
Or
One ply of SBS Glass FR Torch, SBS Glass FR Torch Ultrawhite, SBS Torch, SBS Torch Ultrawhite, SBS Premium Torch, SBS Premium Torch Ultrawhite, SBS FR Torch, SBS FR Torch Ultrawhite, SBS Premium FR Torch, SBS Premium FR Torch Ultrawhite torch adhered with minimum 3 in. wide side laps.

Maximum Design Pressure: -52.5 psf. (See General Limitation #7)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga., Type B (min. 33 ksi) steel deck is secured to structural supports at a maximum spacing of 6 ft. o.c. Steel deck is attached to supports with $\frac{5}{8}$ " puddle welds spaced a maximum 6" o.c. at each bearing attachment point. Side Laps are fastened at 24" o.c. with $\frac{1}{4}$ " x $\frac{7}{8}$ " HWH screws.

System Type B(11): Base layer of insulation mechanically attached, top layer adhered with approved adhesive. Membrane fully adhered.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL Minimum 2" thick	1 with 5	1:1.6 ft ²

Note: Base layer shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Middle Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL Minimum $\frac{1}{2}$ " thick	N/A	N/A

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
SECUROCK Gypsum-Fiber Roof Board Minimum $\frac{1}{2}$ " thick	N/A	N/A

Note: Middle and Top insulation layers shall be adhered with I.S.O. Stick applied in $\frac{3}{4}$ " to 1" wide ribbons spaced 6" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet: One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

- Ply Sheet:** (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
Or
(Optional) One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.
- Membrane:** One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
Or
One ply of SBS Glass FR Torch, SBS Glass FR Torch Ultrawhite, SBS Torch, SBS Torch Ultrawhite, SBS Premium Torch, SBS Premium Torch Ultrawhite, SBS FR Torch, SBS FR Torch Ultrawhite, SBS Premium FR Torch, SBS Premium FR Torch Ultrawhite torch adhered with minimum 3 in. wide side laps.
- Maximum Design Pressure:** -67.5 psf. (See General Limitation #7)

Membrane Type: APP

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. Steel

System Type C(1): All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL, RESISTA Minimum 1.4" thick	N/A	N/A
Approved Perlite Minimum ¾" thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Approved Perlite Minimum ¾" thick	1 or 2 with 5	1:3 ft ²
Approved High Density Wood Fiberboard Minimum ½" thick	1 or 2 with 5	1:2 ft ²

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One ply of MB Base adhered to the insulation with approved asphalt adhesive applied within the EVT range and at a rate of 20-40 lbs./sq.

Ply Sheet: (Optional) One or more plies of MB Base, Ply IV , Ply IV (4) M, Ply VI or Ply VI (6) M ply sheet or other listed base sheet applied in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.; or one ply APP 160-P torch applied.

Membrane: One ply of APP 180, APP 180-P, APP 180 UltraWhite, APP 180 FR, APP 180 FR UltraWhite, applied by torch parallel to the base ply, with the overlaps staggered 12".

Surfacing: (Optional) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following:

1. Gravel or slag at 400 lb. and 300 lb., respectively, set in a flood coat of type III or IV asphalt at 60 lb./sq.
2. Karnak No. 97, No. 97 AF or No. 169, or APOC #212 at an application rate of 1½ gal./sq.

Maximum Design

Pressure: -45 psf. (See General Limitation #9)



Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. Steel

System Type C(2): All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL, RESISTA Minimum 1.4" thick	N/A	N/A
Approved Perlite Minimum ¾" thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Approved Perlite Minimum ¾" thick	1 or 2 with 5	1:3 ft ²
Approved High Density Wood Fiberboard Minimum ½" thick	1 or 2 with 5	1:2 ft ²

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One ply of MB Base, SBS Base, Ply IV, Ply IV (4) M, Ply VI or Ply VI (6) M ply sheet adhered to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, or Ply IV, Ply IV (4) M, Ply VI or Ply VI (6) M ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Smooth, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

OR

One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square



**Membrane:
(Continued)**

OR

One ply of SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite, torch adhered

OR

One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR or SBS Premium FR UltraWhite cap sheet fully adhered to the base sheet with Firestone Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal./sq.

Surfacing:

(Optional) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following:

1. Gravel or slag at 400 lb. and 300 lb., respectively, set in a flood coat of type III or IV asphalt at 60 lb./sq.
2. Karnak No. 97, No. 97 AF at an application rate of 1½ gal./sq.

**Maximum Design
Pressure:**

–45 psf. (See General Limitation #9)

Membrane Type: APP/SBS
Deck Type 2I: Steel, Insulated
Deck Description: 18-22 ga. Steel
System Type C(3): All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA Minimum 1.5" thick	1 or 2 with 5	1:2 ft ²

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of SBS Base, SBS Poly Base, SBS Premium Base, SBS Premium Poly Base, Ply IV, Ply VI, MB Base, APP 80 Glass Base fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive at a rate of 1½ - 2 gal./sq.

Membrane: One ply of APP Premium FR, APP 170 Cool, APP 180 Cool or APP 180 FR Cool fully adhered to the base sheet with Firestone Multi-Purpose MB Cold Adhesive at a rate of 1½ - 2 gal./sq.

OR

(Not with APP 80 Glass Base) One ply of APP 180, APP 180-P, APP 180 UltraWhite, APP 180 FR, APP 180 FR UltraWhite, torch adhered to the base sheet

OR

(Not with APP 80 Glass Base) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Smooth, SBS Premium, SBS Premium FR or SBS Premium FR UltraWhite fully adhered to the base sheet with Firestone Multi-Purpose MB Cold Adhesive at a rate of 1½ - 2 gal./sq.

OR

(Not with APP 80 Glass Base) One ply of SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite torch adhered to the base sheet.

OR

(Not with APP 80 Glass Base) One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square.

Membrane: OR
(Continued) (Not with APP 80 Glass Base) One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered to the base sheet with hot asphalt adhesive applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: (Optional) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following to obtain required fire classification.

1. Gravel or slag at 400 lbs./sq. or 300 lbs./sq, respectively, in a flood coat of approved asphalt at 60 lbs./sq.
2. Karnak 97 Fibrated Aluminum Asphalt Roof Coating or Asbestos Free Aluminum Roof Coating at 1½ gal./sq.

Maximum Design Pressure: -45 psf. (See General Limitation #9)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga., grade 33 steel

System Type C(4): All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
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Any approved polyisocyanurate listed in Table 2

Minimum 1.5" thick	N/A	N/A
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Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
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SECUROCK Gypsum-Fiber Roof Board

Minimum ¼" thick	1 with 5	1:4 ft ²
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Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Primer: (Optional) SECUROCK Gypsum-Fiber Roof Board may be primed with ASTM D41 asphalt primer and allowed to dry prior to application of a torched base sheet

Base Sheet: One or more plies of SBS Base, MB Base, Ply IV, Ply VI, SBS PolyBase, SBS Premium Base, SBS Premium Poly Base, or SBS Smooth fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5 – 2.0 gal./sq, or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./square, or asphalt applied in the EVT range at a rate of 20 40 lbs./sq. with minimum 3 in. wide side laps.

OR

One or more plies of SBS Glas Torch Base, SBS Glass Torch Base 1.5, or SBS Poly Torch Base adhered with minimum 3 in. wide side laps.

Membrane: One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

One ply of SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite, torch adhered

Surfacing: (Optional) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following to obtain required fire classification.

1. Gravel or slag at 400 lbs./sq. or 300 lbs./sq, respectively, in a flood coat of approved asphalt at 60 lbs./sq.
2. Karnak 97 Fibrated Aluminum Asphalt Roof Coating or Asbestos Free Aluminum Roof Coating at 1½ gal./sq.

Maximum Design

Pressure: -45 psf. (See General Limitation #9)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. Steel

System Type C(5): All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL, RESISTA Minimum 1.5" thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISOGARD HD Minimum ½" thick	1 or 2 with 5	1:2.7 ft²

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of MB Base, SBS Base, SBS Poly Base, SBS Premium Base, SBS Premium Poly Base, Ply IV, Ply VI, SBS Smooth fully adhered to the coverboard with Firestone Multi-Purpose MB Cold Adhesive at a rate of 1½ - 2 gal./sq.

Membrane: One ply of SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite torch adhered to the base sheet.

Surfacing: (Optional) Install one of the following to obtain required fire classification.
1. Roof Gravel in Firestone Multi-Purpose MB Cold Adhesive
2. Roof Gravel in a flood coat of approved asphalt

Maximum Design Pressure: -45 psf. (See General Limitation #9)



Membrane Type: APP/SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type C(6): All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA Minimum 1.5" thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
DensDeck Prime Minimum ¼" thick	1 or 2 with 5	1:4 ft ²

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of Firestone APP 160 or APP 170 torch applied.
Or
One or more plies of SBS Glass Torch Base, SBS Poly Torch, SBS Glass Torch Base 1.5, torch adhered with minimum 3 in. wide side laps.

Membrane: (Over APP Base Sheet only) One ply of APP 160, APP 170, APP 180, APP 180 UltraWhite, APP 180 FR, or APP 180 FR UltraWhite torch adhered to the base sheet with minimum 3 in. wide side laps.
Or
(Over SBS Base Sheet only) One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
Or
One ply of SBS Glass FR Torch, SBS Glass FR Torch Ultrawhite, SBS Torch, SBS Torch Ultrawhite, SBS Premium Torch, SBS Premium Torch Ultrawhite, SBS FR Torch, SBS FR Torch Ultrawhite, SBS Premium FR Torch, SBS Premium FR Torch Ultrawhite torch adhered with minimum 3 in. wide side laps.

Surfacing: (Optional) Install one of the following to obtain required fire classification.
1. Roof gravel at 400 lbs./sq. in a flood coat of approved asphalt
2. Roof gravel in Firestone Multi-Purpose MB Cold Adhesive at 2.5 gal./sq

Maximum Design

Pressure: -45 psf. (See General Limitation #9)



Membrane Type: APP/SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., .0294 in. thick, Grade 33 steel deck attached to structural supports spaced a maximum 6 ft. o.c. with ITW Buildex Traxx/5 fasteners placed 6" o.c. ITW Buildex Traxx/1 fasteners installed a maximum 24" o.c. at the panel side laps.

System Type C(7): All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA Minimum 2" thick	1 or 2 with 5	1:1.33 ft ²

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of SBS Base, SBS Poly Base, SBS Premium Poly Base, SBS Smooth, SBS Premium Base, Ply IV, Ply VI, MB Base, APP 80 Glass Base fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive at a rate of 1½ - 2 gal./sq.

Membrane: (Not with SBS Smooth) One ply of APP Premium FR, APP 170 Cool, APP 180 Cool or APP 180 FR Cool fully adhered to the base sheet with Firestone Multi-Purpose MB Cold Adhesive at a rate of 1½ - 2 gal./sq.
OR
(Not with SBS Smooth) One ply of APP 180, APP 180-P, APP 180 UltraWhite, APP 180 FR, APP 180 FR UltraWhite, torch adhered to the base sheet
OR
(Not with APP 80 Glass Base) One ply of SBS Torch, SBS Torch UltraWhite, SBS Torch FR, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite torch adhered to the base sheet.
OR
(Not with APP 80 Glass Base) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR or SBS Premium FR UltraWhite fully adhered to the base sheet with Firestone Multi-Purpose MB Cold Adhesive at a rate of 1½ - 2 gal./sq.
OR
(Not with APP 80 Glass Base) One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square.

**Membrane:
(Continued)**

OR
(Not with APP 80 Glass Base) One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered to the base sheet with hot asphalt adhesive applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing:

(Optional) Install one of the following to obtain required fire classification. Any coating, listed below, used as a surfacing, must be listed within a current NOA.

1. Gravel or slag at 400 lbs./sq. or 300 lbs./sq, respectively, in a flood coat of approved asphalt at 60 lbs./sq.
2. Karnak 97 Fibrated Aluminum Asphalt Roof Coating or Asbestos Free Aluminum Roof Coating at 1½ gal./sq.

**Maximum Design
Pressure:**

-52.5 psf. (See General Limitation #7)

Membrane Type: SBS
Deck Type 2I: Steel, Insulated
Deck Description: Min. 22 ga., 0.0295 in. thick, ASTM A1008 Grade 33, Type B steel deck attached to structural supports spaced a maximum 6 ft. o.c. with two (2) ITW Buildex Traxx/5 fasteners placed 6" o.c. ITW Buildex Traxx/1 fasteners installed a maximum 24" o.c. at the panel side laps.

System Type C(8): All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA Minimum 1.5" thick	1 or 2 with 5	See below

Note: Base layer shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Base Sheet: One or more plies of Ply IV, Ply VI, MB Base, SBS Base, SBS Poly Base, SBS Premium Base, SBS Premium Poly Base, or SBS Premium Base are fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square.

Membrane: SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Smooth, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite is fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square.

OR

One ply of SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite cap sheet torch adhered to the ply sheet with the 3" side laps heat fused with a torch.

OR

One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered to the base sheet with hot asphalt adhesive applied within the EVT range and at a rate of 20-40 lbs./sq

OR

One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR or SBS Premium FR UltraWhite cap sheet fully adhered to the base sheet with Firestone Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal./sq.

Surfacing: (Optional) Install one of the following to obtain required fire classification.

1. Roof Gravel at 400 lbs./sq. in a flood coat of approved asphalt

Maximum Design Pressure: -60 psf. 1.5"thick – at a fastener density of 1:1.8 ft² (See General Limitation #7)

-97.5 psf. 1.5"thick – at a fastener density of 1:1 ft² (See General Limitation #7)



Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., 0.0295 in. thick, Grade 33, Type B steel deck attached to structural supports spaced a maximum 6 ft. o.c. with ITW Buildex Traxx/5 fasteners placed 6" o.c. ITW Buildex Traxx/1 fasteners installed a maximum 24" o.c. at the panel side laps.

System Type C(9): All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA Minimum 1.5" thick	1 or 2 with 5	1:1.3 ft ²

Note: Base layer shall be mechanically attached with fasteners and density described above.

Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Base Sheet: One or more plies of SBS Base, MB Base, Ply IV, Ply VI, SBS PolyBase, SBS Premium Base, SBS Premium Poly Base, or SBS Smooth fully adhered to the insulation with LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./square with minimum 3 in. wide side laps.

Membrane: SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite is fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square.

OR

One ply of SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite cap sheet torch adhered to the ply sheet with the 3" side laps heat fused with a torch.

OR

One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered to the base sheet with hot asphalt adhesive applied within the EVT range and at a rate of 20-40 lbs./sq.

OR

One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR or SBS Premium FR UltraWhite cap sheet fully adhered to the base sheet with Firestone Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal./sq.

Surfacing: (Optional) Install one of the following to obtain required fire classification.

1. Roof Gravel at 400 lbs./sq. in a flood coat of approved asphalt

Maximum Design

Pressure: -90 psf. (See General Limitation #7)



Membrane Type: SBS/APP

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., 0.0295 in. thick, Grade 33, Type B steel deck attached to structural supports spaced a maximum 6 ft. o.c. with two (2) ITW Buildex Traxx/5 fasteners and ¾" diameter washers placed 6" o.c. ITW Buildex Traxx/1 fasteners installed a maximum 12" o.c. at the panel side laps.

System Type C(10): All layers of insulation simultaneously attached.

Vapor Barrier: (Optional) 4-6 mil thick polyethylene vapor retarder is placed over the steel deck with minimum 2" wide laps sealed with duct tape.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA Minimum 1.5" thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board Minimum ½" thick	2 with 5	See Below

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, or SBS Premium Poly Base is fully adhered to the insulation with hot asphalt applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3 in. wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Torch, SBS Glass Torch Base 1.5, torch adhered with minimum 3 in. wide side laps.

Or

One or more plies of Firestone APP 160 torch adhered with minimum 3" wide side laps.

Ply Sheet: (Optional – Not for use with APP 160) One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

(Optional – Not for use with APP 160) One or more plies of SBS Glass Torch Base, SBS Poly Torch Base, or SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps

- Membrane:** (Not for use with APP 160) One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3 in. wide side laps.
- Or
- (Not for use with APP 160) One ply of SBS Glass FR Torch, SBS Glass FR Torch Ultrawhite, SBS Torch, SBS Torch Ultrawhite, SBS Premium Torch, SBS Premium Torch Ultrawhite, SBS FR Torch, SBS FR Torch Ultrawhite, SBS Premium FR Torch, SBS Premium FR Torch Ultrawhite torch adhered with minimum 3 in. wide side laps.
- Or
- APP 180, APP 180 FR, APP Premium FR, APP 180 FR UltraWhite, APP 180 UltraWhite torch adhered with minimum 3" wide side laps.
- Surfacing:** (Optional) Install one of the following to obtain required fire classification. Any coating, listed below, used as a surfacing, must be listed within a current NOA.
1. Gravel or slag at 400 lbs./sq. or 300 lbs./sq, respectively, in a flood coat of approved asphalt at 60 lbs./sq.
 2. Karnak 97 Fibrated Aluminum Asphalt Roof Coating or Asbestos Free Aluminum Roof Coating at 1½ gal./sq.
- Maximum Design Pressure:** -97.5 psf. Top insulation fastener density of 1:1.33 ft² (See General Limitation #7)
-127.5 psf. SBS ONLY; Top insulation fastener density of 1:1 ft² (See General Limitation #7)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., 0.0295 in. thick, Grade 33, Type B steel deck attached to structural supports spaced a maximum 6 ft. o.c. with ITW Buildex Traxx/5 fasteners placed 6" o.c. ITW Buildex Traxx/1 fasteners installed a maximum 24" o.c. at the panel side laps.

System Type C(11): All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL, RESISTA Minimum 2" thick	1 or 2 with 5	1:1.6 ft²

Note: Base layer shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Base Sheet: One or more plies of SBS Base, MB Base, Ply IV, Ply VI, SBS PolyBase, SBS Premium Base, SBS Premium Poly Base, or SBS Smooth fully adhered to the insulation with LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./square with minimum 3 in. wide side laps.

Ply Sheet: (Optional) One ply of Ply IV (4) M, Ply VI (6) M, MB Base M, SBS Base, SBS Poly Base, or SBS Premium Base are fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square.

Membrane: SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite is fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square.

OR

One ply of SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite cap sheet torch adhered to the ply sheet with the 3" side laps heat fused with a torch.

OR

One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered to the base sheet with hot asphalt adhesive applied within the EVT range and at a rate of 20-40 lbs./sq

Membrane: OR
(Continued) One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR or SBS Premium FR UltraWhite cap sheet fully adhered to the base sheet with Firestone Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal./sq.

Surfacing: (Optional) Install one of the following to obtain required fire classification.
1. Roof Gravel at 400 lbs./sq. in a flood coat of approved asphalt

Maximum Design Pressure: -82.5 psf. (See General Limitation #7)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., 0.0295 in. thick, Grade 33, Type B steel deck attached to structural supports spaced a maximum 6 ft. o.c. with two (2) ITW Buildex Traxx/5 fasteners and 3/4" diameter washers placed 6" o.c. ITW Buildex Traxx/1 fasteners installed a maximum 12" o.c. at the panel side laps.

System Type C(12): All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA Minimum 2.2" thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
DensDeck Prime Minimum 1/2" thick	8 with 9	See Below

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

System 1:

Base Sheet: One ply of Firestone SBS Base, SBS Smooth, SBS Premium Base, SBS Poly Base, or SBS Premium Poly Base or MB Base M fully adhered to the coverboard with hot asphalt applied at a rate of 20-25 lbs./sq.

Ply Sheet: One or more plies of Firestone Ply IV (4) M or Ply VI (6) M Ply Felt, SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, or SBS Premium Poly Base fully adhered with hot asphalt applied at a rate of 20-25 lbs./sq.

Membrane: One ply of SBS Cap, SBS Cap UltraWhite, SBS Smooth, SBS Premium, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium FR or SBS Premium FR UltraWhite cap sheet fully adhered with hot asphalt at a rate of 20-25 lbs./sq.

OR

(Not with MB Base M) One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square.



OR

One ply of SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite torch adhered

OR

(Only when adhering to Type IV or Type VI felts) One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR or SBS Premium FR UltraWhite cap sheet fully adhered to the base sheet with Firestone Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal./sq.

System 2:

Base Sheet: Two or three of Firestone Ply IV (4) M or Ply VI (6) M Ply Felt fully adhered to the coverboard with hot asphalt applied to each ply at a rate of 20-25 lbs./sq.

Membrane: One ply of Firestone SBS Cap, SBS Cap UltraWhite, SBS Smooth, SBS Premium, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium FR or SBS Premium FR UltraWhite cap sheet fully adhered with hot asphalt at a rate of 20-25 lbs./sq.

Surfacing: (Optional) Install one of the following to obtain required fire classification. Any coating, listed below, used as a surfacing, must be listed within a current NOA.

1. Gravel or slag at 400 lbs./sq. or 300 lbs./sq, respectively, in a flood coat of approved asphalt at 60 lbs./sq.
2. Karnak 97 Fibrated Aluminum Asphalt Roof Coating or Asbestos Free Aluminum Roof Coating at 1½ gal./sq.

Maximum Design

Pressure: -112.5 psf. at a fastener density of 1:1.33 ft² (See General Limitation #7)
-157.5 psf. at a fastener density of 1:1 ft² (See General Limitation #7)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., 0.0295 in. thick, SS Grade 33, Type B steel deck attached to structural supports spaced a maximum 6 ft. o.c. with two (2) ITW Buildex Traxx/5 fasteners placed 6" o.c. ITW Buildex Traxx/1 fasteners installed a maximum 24" o.c. at the panel side laps.

System Type C(13): All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA Minimum 2.3" thick	1 or 2 with 5	1:1 ft ²

Note: Base layer shall be mechanically attached with fasteners and density described above.

Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Base Sheet: One or more plies SBS Base, SBS Poly Base, SBS Premium Base, SBS Premium Poly Base, Ply IV, Ply VI, MB Base or SBS Smooth fully adhered to the insulation with LiquiGard Membrane Adhesive applied at 1.5- 2.0 gal./sq.

Membrane: SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite is fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square.

OR

One ply of SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite cap sheet torch adhered to the ply sheet with the 3" side laps heat fused with a torch.

OR

One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered to the base sheet with hot asphalt adhesive applied within the EVT range and at a rate of 20-40 lbs./sq

OR

One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR or SBS Premium FR UltraWhite cap sheet fully adhered to the base sheet with Firestone Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal./sq

Surfacing: (Optional) Install one of the following to obtain required fire classification.

1. Roof Gravel at 400 lbs./sq. in a flood coat of approved asphalt

Maximum Design

Pressure: -112.5 psf. (See General Limitation #7)



Membrane Type: SBS
Deck Type 2I: Steel, Insulated
Deck Description: Min. 22 ga., 0.0295 in. thick, SS Grade 80, Type B steel deck attached to structural supports spaced a maximum 6 ft. o.c. with two (2) ITW Buildex Traxx/5 fasteners placed 6" o.c. ITW Buildex Traxx/1 fasteners installed a maximum 24" o.c. at the panel side laps.

System Type C(14): All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA Minimum 2.3" thick	1 or 2 with 5	1:1 ft ²

Note: Base layer shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Base Sheet: One or more plies of Ply IV, Ply VI, MB Base, SBS Base, SBS Poly Base, SBS Premium Poly Base or SBS Premium Base are fully adhered to the insulation with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square.

Membrane: SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite is fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square.

OR

One ply of SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite cap sheet torch adhered to the ply sheet with the 3" side laps heat fused with a torch.

OR

One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered to the base sheet with hot asphalt adhesive applied within the EVT range and at a rate of 20-40 lbs./sq.

OR

One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR or SBS Premium FR UltraWhite cap sheet fully adhered to the base sheet with Firestone Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal./sq.

Surfacing: (Optional) Install one of the following to obtain required fire classification.

1. Roof Gravel at 400 lbs./sq. in a flood coat of approved asphalt

Maximum Design

Pressure: -135 psf. (See General Limitation #7)



Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., .0295 in. thick, Grade 33, Type B steel deck attached to structural supports spaced a maximum 6 ft. o.c. with two (2) ITW Buildex Traxx/5 fasteners and 3/4" diameter washers placed 6" o.c. ITW Buildex Traxx/1 fasteners installed a maximum 12" o.c. at the panel side laps.

System Type C(15): All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA Minimum 2.2" thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
SECUROCK Gypsum-Fiber Roof Board Minimum 1/2" thick	8 with 9	See Below

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

System 1:

Base Sheet: One ply of SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, or SBS Smooth or MB Base M fully adhered to the coverboard with hot asphalt applied at a rate of 20-25 lbs./sq.

Ply Sheet: One or more plies of Ply IV (4) M or Ply VI (6) M Ply Felt, SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, or SBS Premium Poly Base fully adhered with hot asphalt applied at a rate of 20-25 lbs./sq.

Membrane: One ply of SBS Cap, SBS Cap UltraWhite, SBS Smooth, SBS Premium, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium FR or SBS Premium FR UltraWhite, cap sheet fully adhered with hot asphalt at a rate of 20-25 lbs./sq.
OR
(Not with MB Base M) One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square.



OR

One ply of SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite torch adhered

OR

(Only when adhering to Type IV or Type VI felts) One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR or SBS Premium FR UltraWhite cap sheet fully adhered to the base sheet with Firestone Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal./sq.

System 2:

Base Sheet:

Two or three plies of Ply IV (4) M or Ply VI (6) M Ply Felt fully adhered to the coverboard with hot asphalt applied to each ply at a rate of 20-25 lbs./sq.

Membrane:

One ply of Firestone SBS Cap, SBS Cap UltraWhite, SBS Smooth, SBS Premium, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium FR or SBS Premium FR UltraWhite cap sheet fully adhered with hot asphalt at a rate of 20-25 lbs./sq.

Surfacing:

(Optional) Install one of the following to obtain required fire classification. Any coating, listed below, used as a surfacing, must be listed within a current NOA.

1. Gravel or slag at 400 lbs./sq. or 300 lbs./sq, respectively, in a flood coat of approved asphalt at 60 lbs./sq.
2. Karnak 97 Fibrated Aluminum Asphalt Roof Coating or Asbestos Free Aluminum Roof Coating at 1½ gal./sq.

Maximum Design

Pressure:

- 157.5 psf. at a fastener density of 1:1.33 ft² (See General Limitation #7)
- 172.5 psf. at a fastener density of 1:1 ft² (See General Limitation #7)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga., Type B (min. 33 ksi) steel deck is secured to structural support at a maximum spacing of 6 ft. o.c. Steel deck is attached to supports $\frac{5}{8}$ " diameter puddle welds at every flute. Panel side laps are fastened at 24" o.c. with $\frac{1}{4}$ " x $\frac{7}{8}$ " HWH screws.

System Type C(16): Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL, RESISTA		
Minimum $\frac{1}{2}$" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL, RESISTA		
Minimum 2" thick	1 with 5	1:2.67 ft ²
ISOGARD HD Composite		
Minimum 1$\frac{1}{2}$" thick	1 with 5	1:2.67 ft ²
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board		
Minimum $\frac{1}{2}$" thick	1 with 5	1:2.67 ft ²

Note: Insulation shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Base Sheet: One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, Ply VI, MB Base, fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. (DensDeck and SECUROCK only) with minimum 3 in. wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered (DensDeck and SECUROCK only) with minimum 3 in. wide side laps.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

(Optional) One or more plies of SBS Glass Torch Base, SBS Poly Torch Base, or SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Membrane: One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

One ply of SBS Glass FR Torch, SBS Glass FR Torch Ultrawhite, SBS Torch, SBS Torch Ultrawhite, SBS Premium Torch, SBS Premium Torch Ultrawhite, SBS FR Torch, SBS FR Torch Ultrawhite, SBS Premium FR Torch, SBS Premium FR Torch Ultrawhite torch adhered with minimum 3 in. wide side laps.

Maximum Design Pressure:

-45 psf. (See General Limitation #7)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga., Type B (min. 33 ksi) steel deck is secured to structural support at a maximum spacing of 6 ft. o.c. Steel deck is attached to supports $\frac{5}{8}$ " diameter puddle welds at every flute. Panel side laps are fastened at 24" o.c. with $\frac{1}{4}$ " x $\frac{7}{8}$ " HWH screws.

System Type C(17): Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL, RESISTA Minimum $\frac{1}{2}$" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL, RESISTA Minimum 2" thick	1 with 5	1:1.78 ft ²
ISOGARD HD Composite Minimum 1$\frac{1}{2}$" thick	1 with 5	1:1.78 ft ²
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum $\frac{1}{2}$" thick	1 with 5	1:1.78 ft ²

Note: All Insulation shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Base Sheet: One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, Ply VI, MB Base, fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. (only DensDeck and SECUROCK) with minimum 3 in. wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered (only DensDeck and SECUROCK) with minimum 3 in. wide side laps.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

(Optional) One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Membrane: One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

One ply of SBS Glass FR Torch, SBS Glass FR Torch Ultrawhite, SBS Torch, SBS Torch Ultrawhite, SBS Premium Torch, SBS Premium Torch Ultrawhite, SBS FR Torch, SBS FR Torch Ultrawhite, SBS Premium FR Torch, SBS Premium FR Torch Ultrawhite torch adhered with minimum 3 in. wide side laps.

**Maximum Design
Pressure:**

-60 psf. (See General Limitation #7)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga., Type B (min. 33 ksi) steel deck is secured to structural support at a maximum spacing of 6 ft. o.c. Steel deck is attached to supports with #12-24 x 1¼" HWH screws spaced a maximum 6" o.c. Side Laps are fastened at 24" o.c. with ¼" x ⅝" HWH screws.

System Type C(18): Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA Minimum ½" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
RESISTA Minimum 1" thick	1 with 5	1:1.6 ft ²
ISOGARD HD Composite Minimum 1½" thick	1 with 5	1:1.6 ft ²

Note: Top Layer shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Base Sheet: One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, Ply VI, MB Base, fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. with minimum 3 in. wide side laps.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

(Optional) One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Membrane: One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

One ply of SBS Glass FR Torch, SBS Glass FR Torch Ultrawhite, SBS Torch, SBS Torch Ultrawhite, SBS Premium Torch, SBS Premium Torch Ultrawhite, SBS FR Torch, SBS FR Torch Ultrawhite, SBS Premium FR Torch, SBS Premium FR Torch Ultrawhite torch adhered with minimum 3 in. wide side laps.

**Maximum Design
Pressure:**

-67.5 psf. (See General Limitation #7)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga., Type B (min. 33 ksi) steel deck is secured to structural support at a maximum spacing of 6 ft. o.c. Steel deck is attached to supports with #12-24 x 1¼" HWH screws spaced a maximum 6" o.c. Side Laps are fastened at 24" o.c. with ¼" x ⅞" HWH screws.

System Type C(19): Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.
One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL		
Minimum 1" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
DensDeck Prime		
Minimum ½" thick	1 with 5	1:1.33 ft ²

Note: Top Layer shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Base Sheet: One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, or SBS Premium Poly Base fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

(Optional) One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Membrane: One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

One ply of SBS Glass FR Torch, SBS Glass FR Torch Ultrawhite, SBS Torch, SBS Torch Ultrawhite, SBS Premium Torch, SBS Premium Torch Ultrawhite, SBS FR Torch, SBS FR Torch Ultrawhite, SBS Premium FR Torch, SBS Premium FR Torch Ultrawhite torch adhered with minimum 3 in. wide side laps.

Maximum Design Pressure: -67.5 psf. (See General Limitation #7)



Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga., Type B (min. 33 ksi) steel deck is secured to structural support at a maximum spacing of 6 ft. o.c. Steel deck is attached to supports with #12-24 x 1¼" HWH screws spaced a maximum 6" o.c. Side Laps are fastened at 24" o.c. with ¼" x ⅞" HWH screws.

System Type C(20): Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+GL, RESISTA Minimum 1" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
SECUROCK Gypsum-Fiber Roof Board Minimum ½" thick	1 with 5	1:1.78 ft ²

Note: Top Layer shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Base Sheet: One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, Ply VI, MB Base, fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
Or
One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Ply Sheet: (Optional) One or more plies of] SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
Or
(Optional) One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Membrane: One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

One ply of SBS Glass FR Torch, SBS Glass FR Torch Ultrawhite, SBS Torch, SBS Torch Ultrawhite, SBS Premium Torch, SBS Premium Torch Ultrawhite, SBS FR Torch, SBS FR Torch Ultrawhite, SBS Premium FR Torch, SBS Premium FR Torch Ultrawhite torch adhered with minimum 3 in. wide side laps.

**Maximum Design
Pressure:**

-75 psf. (See General Limitation #7)

Membrane Type: SBS
Deck Type 2I: Steel, Insulated
Deck Description: 18-22 ga., Type B (min. 33 ksi) steel deck is secured to structural support at a maximum spacing of 6 ft. o.c. Steel deck is attached to supports with #12-24 x 1¼" HWH screws spaced a maximum 6" o.c. Side Laps are fastened at 24" o.c. with ¼" x ⅞" HWH screws.

System Type C(21): Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL, RESISTA		
Minimum ½" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISOGARD HD Composite		
Minimum 1½" thick	1 with 5	1:1.78 ft²

Note: Insulation shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Base Sheet: One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, Ply VI, MB Base, fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. with minimum 3 in. wide side laps.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
Or

Membrane: (Optional) One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.
One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
Or
One ply of SBS Glass FR Torch, SBS Glass FR Torch Ultrawhite, SBS Torch, SBS Torch Ultrawhite, SBS Premium Torch, SBS Premium Torch Ultrawhite, SBS FR Torch, SBS FR Torch Ultrawhite, SBS Premium FR Torch, SBS Premium FR Torch Ultrawhite torch adhered with minimum 3 in. wide side laps.

Maximum Design Pressure: -75 psf. (See General Limitation #7)



Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck: 18-22 ga., Type B (min. 33 ksi) steel deck is secured to structural support at a maximum spacing of 6 ft. o.c. Steel deck is attached to supports with #12-24 x 1 1/4" HWH screws spaced a maximum 6" o.c. Side Laps are fastened at 24" o.c. with 1/4" x 7/8" HWH screws.

System Type (C22): Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

Base Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL, RESISTA Minimum 1/2" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISOGARD HD Composite Minimum 1 1/2" thick	1 with 5	1:2.67 ft ²

Note: All Insulation shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Base Sheet: One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, Ply VI, MB Base, fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. with minimum 3 in. wide side laps.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

(Optional) One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Membrane: One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

One ply of SBS Glass FR Torch, SBS Glass FR Torch Ultrawhite, SBS Torch, SBS Torch Ultrawhite, SBS Premium Torch, SBS Premium Torch Ultrawhite, SBS FR Torch, SBS FR Torch Ultrawhite, SBS Premium FR Torch, SBS Premium FR Torch Ultrawhite torch adhered with minimum 3 in. wide side laps.

Maximum Design Pressure: -60 psf. (See General Limitation #7)



Membrane Type: SBS
Deck Type 2I: Steel, Insulated
Deck: 18-22 ga., Type B (min. 33 ksi) steel deck is secured to structural support at a maximum spacing of 6 ft. o.c. Steel deck is attached to supports with #12-24 x 1¼" HWH screws spaced a maximum 6" o.c. Side Laps are fastened at 24" o.c. with ¼" x 7/8" HWH screws.

System Type(C23): Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA Minimum 1" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISOGARD HD Minimum ½" thick	1 with 5	1:1.33 ft ²

Note: All Insulation shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Base Sheet: One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, or Ply VI fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

(Optional) One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Membrane: One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

One ply of SBS Glass FR Torch, SBS Glass FR Torch Ultrawhite, SBS Torch, SBS Torch Ultrawhite, SBS Premium Torch, SBS Premium Torch Ultrawhite, SBS FR Torch, SBS FR Torch Ultrawhite, SBS Premium FR Torch, SBS Premium FR Torch Ultrawhite torch adhered with minimum 3 in. wide side laps.

Maximum Design Pressure: -52.5 psf. (See General Limitation #7)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck: Minimum 22 ga. 0.0295 in. thick (See MDP below for minimum yield strength) steel deck secured at a maximum spacing of 6 ft. o.c. Steel deck is attached to supports with ITW Buildex TRAXX 5 fasteners spaced a maximum 6" o.c. Side Laps are fastened at 30" o.c. with ITW TRAXX 1 fasteners.

System Type (C24): Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA Minimum 1½" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
SECUROCK Gypsum-Fiber Roof Board Minimum ½" thick	1 with 5	1:1.45 ft ²

Note: All Insulation shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Base Sheet: One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, Ply VI, MB Base, fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
Or
One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
Or
(Optional) One or more plies of SBS Glass Torch Base, SBS Poly Torch Base, or SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Membrane:

One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

One ply of SBS Glass FR Torch, SBS Glass FR Torch Ultrawhite, SBS Torch, SBS Torch Ultrawhite, SBS Premium Torch, SBS Premium Torch Ultrawhite, SBS FR Torch, SBS FR Torch Ultrawhite, SBS Premium FR Torch, SBS Premium FR Torch Ultrawhite torch adhered with minimum 3 in. wide side laps.

**Maximum Design
Pressure:**

-82.5 psf. on min. Grade 33 Steel Deck - (See General Limitation #7)

-90 psf. on min. Grade 80 Steel Deck - (See General Limitation #7)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck: Minimum 22 ga., 0.0295 in. thick, Grade 80 steel deck secured at a maximum spacing of 6 ft. o.c. Steel deck is attached to supports with two (2) ITW Buildex TRAXX 5 fasteners and ¾ O.D. flat washers spaced a maximum 6" o.c. Side Laps are fastened at 12" o.c. with ITW TRAXX 1 fasteners.

System Type (C25): Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL, RESISTA Minimum 1½" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
SECUROCK Gypsum-Fiber Roof Board Minimum ½" thick	1 with 5	1:1 ft ²

Note: All Insulation shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Base Sheet: One or more plies of SBS Glass Torch Base, SBS Poly Torch, SBS Glass Torch Base 1.5, torch adhered with minimum 3 in. wide side laps.

Membrane: One ply of SBS Glass FR Torch, SBS Glass FR Torch Ultrawhite, SBS Torch, SBS Torch Ultrawhite, SBS Premium Torch, SBS Premium Torch Ultrawhite, SBS FR Torch, SBS FR Torch Ultrawhite, SBS Premium FR Torch, SBS Premium FR Torch Ultrawhite torch adhered with minimum 3 in. wide side laps.

Maximum Design Pressure: -150 psf. (See General Limitation #7)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga., Type B (min. 33 ksi) steel deck is secured to structural support at a maximum spacing of 6 ft. o.c. Steel deck is attached to supports with 5/8" diameter puddle welds spaced a every flute. Panel side laps are fastened at 24" o.c. with 1/4" x 7/8" HWH screws.

System Type C(26): Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA Minimum 2" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum 1/2" thick	1 with 5	1:1.33 ft ²

Note: Insulation shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Base Sheet: (SECUROCK only) One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. with minimum 3 in. wide side laps.

Or

One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base fully adhered with mopping asphalt applied in the EVT range at a rate of 20-25 lbs./sq.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

(Optional) One or more plies of SBS Glass Torch Base, SBS Poly Torch Base, or SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Membrane: One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

One ply of SBS Glass FR Torch, SBS Glass FR Torch Ultrawhite, SBS Torch, SBS Torch Ultrawhite, SBS Premium Torch, SBS Premium Torch Ultrawhite, SBS FR Torch, SBS FR Torch Ultrawhite, SBS Premium FR Torch, SBS Premium FR Torch Ultrawhite torch adhered with minimum 3 in. wide side laps.

**Maximum Design
Pressure:**

-75 psf. (See General Limitation #7)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga., Type B (min. 33 ksi) steel deck is secured to structural support at a maximum spacing of 6 ft. o.c. Steel deck is attached to supports with #12-24 HWH screws. Panel side laps are stitched a maximum 24" o.c. with 1/4" x 7/8" HWH screws.

System Type C(27): Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL, RESISTA Minimum 1" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
SECUROCK Gypsum-Fiber Roof Board Minimum 1/4" thick	1 with 5	1:1.78 ft²

Note: Insulation shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Base Sheet: One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, Ply VI, MB Base, fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
Or
One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
Or
(Optional) One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Membrane: One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
Or
One ply of SBS Glass FR Torch, SBS Glass FR Torch Ultrawhite, SBS Torch, SBS Torch Ultrawhite, SBS Premium Torch, SBS Premium Torch Ultrawhite, SBS FR Torch, SBS FR Torch Ultrawhite, SBS Premium FR Torch, SBS Premium FR Torch Ultrawhite torch adhered with minimum 3 in. wide side laps.

Maximum Design Pressure: -67.5 psf. (See General Limitation #7)

Membrane Type: APP

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type D(1): All layers of insulation and base sheet simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL, RESISTA Minimum 1.4" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Approved Perlite Minimum ¾" thick	N/A	N/A
Approved High Density Wood Fiberboard Minimum ½" thick	N/A	N/A

Note: Top layer shall have preliminary attachment, prior to the installation of the base/anchor sheet, at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: One ply of MB Base or MB Base M with a 4" side lap mechanically fastened through the insulation to the deck as described below:

Fastening: Approved Tru-Fast screws with metal plates at the side lap 18" o.c. and two rows staggered in the center of the sheet 36" o.c.

Ply Sheet: (Optional) One or more plies of Firestone MB Base, Ply IV, Ply IV (4) M, Ply VI or Ply VI (6) M ply sheet or other listed base sheet applied in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.; or one ply Firestone APP 160-P torch applied.

Membrane: One ply of APP 180, APP 180-P, APP 180 UltraWhite, APP 180 FR, APP 180 FR UltraWhite, applied by torch parallel to the base ply, with the overlaps staggered 12".

Surfacing: (Optional) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following:

1. Gravel or slag at 400 lb. and 300 lb., respectively, set in a flood coat of type III or IV asphalt at 60 lb./sq.
2. Karnak No. 97, No. 97 AF or No. 169, or APOC #212 at an application rate of 1½ gal./sq.

Maximum Design

Pressure: -45 psf. (See General Limitation #9)



Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type D(2): All layers of insulation and base sheet simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL, RESISTA Minimum 1.4" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Approved Perlite Minimum ¾" thick	N/A	N/A
Approved High Density Wood Fiberboard Minimum ½" thick	N/A	N/A

Note: Top layer shall have preliminary attachment, prior to the installation of the base/anchor sheet, at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: One ply of MB Base, SBS Base or with a 4" side lap mechanically fastened to the deck through the insulation as described below:

Fastening: Approved TruFast screws and metal or plastic plates, at a 4" side lap 18" o.c. and two rows staggered in the center of the sheet 36" o.c.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, Ply VI, MB Base, fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

(Optional) One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Membrane: One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Smooth, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

OR

(Not with MB Base) One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square



**Membrane:
(Continued)**

OR

One ply of SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite, torch adhered

OR

(Not with SBS Base, SBS Smooth) One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR or SBS Premium FR UltraWhite cap sheet fully adhered to the base sheet with Firestone Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal./sq.

Surfacing:

(Optional) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following:

1. Gravel or slag at 400 lb. and 300 lb., respectively, set in a flood coat of type III or IV asphalt at 60 lb./sq.
2. Karnak No. 97, No. 97 AF at an application rate of 1½ gal./sq.

**Maximum Design
Pressure:**

-45 psf. (See General Limitation #9)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type D(3): All layers of insulation and base sheet simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA Minimum 1.5" thick	N/A	N/A

Note: Top layer shall have preliminary attachment, prior to the installation of the base/anchor sheet, at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: One ply of MB Base M mechanically fastened to the deck through the insulation with All-Purpose or Heavy Duty Fasteners and Insulation Fastening Plates applied 12" o.c. through the 4" wide base sheet overlaps and 12" o.c. in 2 rows equally spaced and staggered in the field of the base sheet.

OR

One ply of SBS Poly Base mechanically fastened to the deck through the insulation with All-Purpose or Heavy Duty Fasteners and 2" Barbed Seam Metal Plates applied 12" o.c. through the 4" wide base sheet overlaps

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

(Optional) One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Membrane: One ply of Firestone SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR or SBS Premium FR UltraWhite cap sheet fully adhered to the base sheet with Firestone Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal./sq.

OR

One ply of SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite torch adhered.

OR

One ply of Firestone SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square.

OR

One ply of Firestone SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered to the base sheet with hot asphalt adhesive applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing:

(Optional) Install one of the following to obtain required fire classification. Any coating, listed below, used as a surfacing, must be listed within a current NOA.

1. Gravel or slag at 400 lbs./sq. or 300 lbs./sq, respectively, in a flood coat of approved asphalt at 60 lbs./sq.
2. Karnak 97 Fibrated Aluminum Asphalt Roof Coating or Asbestos Free Aluminum Roof Coating at 1½ gal./sq.

Maximum Design

Pressure:

-45 psf. (See General Limitation #9)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. Steel

System Type D(4): All layers of insulation and base sheet simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL, RESISTA Minimum 1.5" thick	N/A	N/A

Note: Top layer shall have preliminary attachment, prior to the installation of the base/anchor sheet, at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: One ply of SBS Poly Torch Base Sheet mechanically fastened to the deck through the insulation as described below:

Fastening: All Purpose Fasteners and MB 2" Barbed Metal Seam Plates at a 4" side lap 18" o.c. The minimum 4" side laps are torch adhered.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

(Optional) One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Membrane: SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite cap sheet torch applied to the base sheet.

OR

One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square

Maximum Design Pressure: -45 psf. (See General Limitation #9)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga. ASTM A653 SS Grade 40 steel deck attached to structural supports spaced maximum 6 ft. o.c. with ITW Buildex Traxx 5 fasteners installed 6" o.c. ITW Buildex Traxx 1 fasteners installed maximum 30" o.c. at the panel side laps.

System Type D(5): All layers of insulation and base sheet simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA Minimum 1.5" thick	N/A	N/A

Note: Insulation shall have preliminary attachment, prior to the installation of the base sheet, at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: One ply of SBS Poly Torch Base sheet mechanically fastened to the deck through the insulation as described below:

Fastening: Heavy-Duty Plus fasteners spaced 12 in. o.c. along Coiled Metal Batten Bar centered within the 3 in. wide side laps spaced 36 in. o.c. The minimum 3" side laps are torch adhered.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
OR
(Optional) One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Membrane: Firestone SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR or SBS Premium FR UltraWhite fully adhered to the base sheet with Firestone Multi-Purpose MB Cold Adhesive at a rate of 1½ - 2 gal./sq.
OR
One ply of SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite torch adhered to the base sheet.

OR

One ply of Firestone SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square.

OR

One ply of Firestone SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered to the base sheet with hot asphalt adhesive applied within the EVT range and at a rate of 20-40 lbs./sq.

- Surfacing:** (Optional) Install one of the following to obtain required fire classification.
1. Roof gravel at 400 lbs./sq. in a flood coat of approved asphalt
 2. Roof gravel in Firestone Multi-Purpose MB Cold Adhesive at 2.5 gal./sq. (SBS roof covers)

Maximum Design

Pressure: -67.5 psf. (See General Limitation #7)

Membrane Type: APP

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 ga., Grade 33, Type B steel deck attached to structural supports spaced maximum 5 ft. o.c. with Tek/5 fasteners installed 6" o.c. Sidelap fastened with Tek/5 fasteners installed a maximum 30" o.c.

System Type D(6): All layers of insulation and base sheet simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA Minimum 1.5" thick	N/A	N/A

Note: Top layer shall have preliminary attachment, prior to the installation of the base/anchor sheet, at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: One ply of MB Base or MB Base M with a 4" side lap mechanically fastened through the insulation to the deck with All-Purpose or Heavy Duty fasteners and plates at a spacing of 12" o.c. in the 4" side lap and two rows staggered in the center of the sheet, 12" o.c.

Ply Sheet: (Optional) One or more plies of Firestone MB Base, Ply IV , Ply IV (4) M, Ply VI or Ply VI (6) M ply sheet or other listed base sheet applied in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.; or one ply Firestone APP 160-P torch applied.

Membrane: One ply of APP 180, APP 180-P, APP 180 UltraWhite, APP 180 FR, APP 180 FR UltraWhite, applied by torch parallel to the base ply, with the overlaps staggered 12".

Surfacing: (Optional) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following:

1. Gravel or slag at 400 lb. and 300 lb., respectively, set in a flood coat of type III or IV asphalt at 60 lb./sq.
2. Karnak No. 97, No. 97 AF or No. 169 at an application rate of 1½ gal./sq.

Maximum Design Pressure: -82.5 psf. (See General Limitation #7)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 ga., Grade 33, Type B steel deck attached to structural supports spaced maximum 5 ft. o.c. with Tek/5 fasteners installed 6" o.c. Sidelap fastened with Tek/5 fasteners installed a maximum 30" o.c.

System Type D(7): All layers of insulation and base sheet simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA, ISOGARD HD Composite Minimum 1.5" thick	N/A	N/A

Note: Top layer shall have preliminary attachment, prior to the installation of the base/anchor sheet, at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: One ply of Firestone MB Base, MB Base M, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, or SBS Smooth with a 4" side lap mechanically fastened through the insulation to the deck with Firestone All-Purpose or Heavy Duty fasteners and plates at a spacing of 12" o.c. in the 4" side lap and two rows staggered in the center of the sheet, 12" o.c.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
Or
(Optional) One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Membrane: One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Smooth, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
OR
(Not with MB Base) One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal./square

**Membrane:
(Continued)**

OR

One ply of SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite, torch adhered

OR

(Not with SBS Base,) One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR or SBS Premium FR UltraWhite cap sheet fully adhered to the base sheet with Firestone Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal./sq.

Surfacing:

(Optional) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following:

1. Gravel or slag at 400 lb. and 300 lb., respectively, set in a flood coat of type III or IV asphalt at 60 lb./sq.
2. Karnak No. 97, No. 97 AF at an application rate of 1½ gal./sq.

**Maximum Design
Pressure:**

-82.5 psf. (See General Limitation #7)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 ga., ASTM A1008, Grade 33, Type B steel deck attached to structural supports spaced maximum 6 ft. o.c. with two (2) ITW Buildex Traxx/5 fasteners installed 6" o.c. ITW Buildex Traxx/1 fasteners installed maximum 14" o.c. at the panel side laps.

System Type D(8): All layers of insulation and base sheet simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL, RESISTA Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
DensDeck, DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum ½" thick	N/A	N/A

Note: Top layer shall have preliminary attachment, prior to the installation of the base/anchor sheet, at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: One ply of Firestone SBS Poly Torch Base Sheet mechanically fastened to the deck through the insulation as described below:

Fastening: Heavy-Duty Plus fasteners spaced 6 in. o.c. along Coiled Metal Batten Bar centered within the 4 in. wide side laps spaced 36 in. o.c. The minimum 4" side laps are torch adhered.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

(Optional) One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Membrane: SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite cap sheet torch applied to the base or ply sheet.

Surfacing: (Optional) Install one of the following to obtain required fire classification.

1. Roof gravel at 400 lbs./sq. in a flood coat of approved asphalt
2. Roof gravel in Firestone Multi-Purpose MB Cold Adhesive at 2.5 gal./sq.

Maximum Design

Pressure: -157.5 psf. (See General Limitation #7)



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Membrane Type: SBS
Deck Type 2I: Steel, Insulated
Deck: 18-22 ga., Type B (min. 33 ksi) steel deck is secured to structural support at a maximum spacing of 6 ft. o.c. Steel deck is attached to supports with #12-24 x 1¼" HWH screws spaced a maximum 6" o.c. Side Laps are fastened at 12" o.c. with ¼" x 7/8" HWH screws.

System Type D(9): All layers of insulation simultaneously mechanically fastened with base sheet
All General and System Limitations apply.

Base Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA Minimum ½" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA, ISOGARD HD Composite Minimum 1½" thick	N/A	N/A
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum ½" thick	N/A	N/A

Note: Insulation shall be loose-laid and membrane mechanically fastened. See base sheet attachment below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements.

Base Sheet: One ply of SBS Poly Base, SBS Premium Poly Base, or SBS Smooth, mechanically fastened through the insulation with Heavy-Duty fasteners and Coiled Metal Batten Strip spaced 18" o.c. at the minimum 3" side laps.

Ply Sheet: One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
Or
One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Membrane: One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
Or
One ply of SBS Glass FR Torch, SBS Glass FR Torch Ultrawhite, SBS Torch, SBS Torch Ultrawhite, SBS Premium Torch, SBS Premium Torch Ultrawhite, SBS FR Torch, SBS FR Torch Ultrawhite, SBS Premium FR Torch, SBS Premium FR Torch Ultrawhite torch adhered with minimum 3 in. wide side laps.

Maximum Design Pressure: -52.5 psf. (See General Limitation #7.)



Membrane Type: SBS
Deck Type 2I: Steel, Insulated
Deck: 18-22 ga., Type B (min. 33 ksi) steel deck is secured to structural support at a maximum spacing of 6 ft. o.c. Steel deck is attached to supports with #12-24 x 1 1/4" HWH screws spaced a maximum 6" o.c. Side Laps are fastened at 24" o.c. with 1/4" x 7/8" HWH screws.

System Type D(10): All layers of insulation simultaneously mechanically fastened with base sheet

All General and System Limitations apply.

Base Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA Minimum 1" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA, ISOGARD HD Composite Minimum 1.5" thick	N/A	N/A

Note: Insulation shall be loose-laid and membrane mechanically fastened. See base sheet attachment below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements.

Base Sheet: One ply of SBS Base, SBS Glass Torch Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, SBS Smooth or SBS Poly Torch Base, mechanically fastened through the insulation with All-Purpose Fasteners and Insulation Fastening Plates spaced 12" o.c. at the minimum 3.4" side laps and 12" o.c. in two staggered rows in the field of the roll.

Ply Sheet: One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
 Or
 One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Membrane: One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
 Or
 One ply of SBS Glass FR Torch, SBS Glass FR Torch Ultrawhite, SBS Torch, SBS Torch Ultrawhite, SBS Premium Torch, SBS Premium Torch Ultrawhite, SBS FR Torch, SBS FR Torch Ultrawhite, SBS Premium FR Torch, SBS Premium FR Torch Ultrawhite torch adhered with minimum 3 in. wide side laps.

Maximum Design Pressure: -60 psf. (See General Limitation #7.)

Membrane Type: SBS
Deck Type 2I: Steel, Insulated
Deck: 18-22 ga., 0.0295 in. thick, Type B (min. 33 ksi) steel deck is secured to structural support at a maximum spacing of 6 ft. o.c. Steel deck is attached to supports with ITW Buildex TRAXX 5 fasteners spaced a maximum 6" o.c. Side Laps are fastened at 30" o.c. with ITW Buildex TRAXX 1 fasteners.
System Type D(11): All layers of insulation simultaneously mechanically fastened with base sheet
All General and System Limitations apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL, RESISTA, ISOGARD HD Composite Minimum 1½" thick	N/A	N/A
Top Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft ²
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum ½" thick	N/A	N/A

Note: Insulation shall be loose-laid and membrane mechanically fastened. See base sheet attachment below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements.

Base Sheet: One ply of MB Base, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, or SBS Smooth mechanically fastened through the insulation with All-Purpose Fasteners or Firestone Heavy-Duty and Insulation Fastening Plates spaced 12" o.c. at the minimum 4" side laps and 12" o.c. two equally spaced and staggered rows in the field of the sheet.

Ply Sheet: One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, Ply VI, MB Base, fully adhered with [list Adhesives and Application Rate Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
Or
One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Membrane: One ply of SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
Or
One ply of SBS Glass FR Torch, SBS Glass FR Torch Ultrawhite, SBS Torch, SBS Torch Ultrawhite, SBS Premium Torch, SBS Premium Torch Ultrawhite, SBS FR Torch, SBS FR Torch Ultrawhite, SBS Premium FR Torch, SBS Premium FR Torch Ultrawhite torch adhered with minimum 3 in. wide side laps.

Maximum Design Pressure: -60 psf. (See General Limitation #7.)



STEEL DECK SYSTEM LIMITATIONS:

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine equivalent or enhanced fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 117, calculations shall be signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant.
2. For steel deck application where specific deck construction is not referenced: The deck shall be a minimum 22 gage attached with 5/8" puddle welds with weld washers at every flute with maximum deck spans of 5 ft. o.c.

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each sidelap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq.

Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.

5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform with Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 61G20-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE



NOA No.: 13-0522.03
Expiration Date: 03/08/16
Approval Date: 09/04/14
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